

REMARKS**I. General**

Claims 1-14 and 16-20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 6,335,548 to Roberts et al. (hereinafter *Roberts '548*). Claims 1-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Roberts '548* in view of U.S. Patent No. 6,521,916 to Roberts et al. (hereinafter *Roberts '916*) and U.S. Patent No. 6,518,600 to Shaddock (hereinafter *Shaddock*).

Applicants hereby traverse the outstanding rejections and request consideration and withdrawal in light of the amendments and remarks contained herein. Claims 1, 16 and 19 have been amended. Support for these amendments may be found in Figure 1 and page 7, lines 12-22 of the specification. Support for the term “electrical lead” as used in the claims can be found in the specification’s reference to straight element 105, which is commonly referred to in the art as an “electrical lead,” *See, e.g., Roberts '548*, column 9, lines 16-18. Claims 1-20 are pending in this application.

II. Rejections under § 102(b)

Claims 1-14 and 16-20 stand rejected under 35 U.S.C. § 102(b) as being anticipated by *Roberts '548*. It is well settled that to anticipate a claim, the reference must teach every element of the claim. *See M.P.E.P. § 2131*. Moreover, in order for an applied reference to be anticipatory under 35 U.S.C. § 102 with respect to a claim, “[t]he elements must be arranged as required by the claim.” *See M.P.E.P. § 2131* (citing *In re Bond*, 15 U.S.P.Q.2d 1566 (Fed. Cir. 1990)). Furthermore, in order for an applied reference to be anticipatory under 35 U.S.C. § 102 with respect to a claim, “[t]he identical invention must be shown in as complete detail as is contained in the . . . claim.” *See M.P.E.P. § 2131* (citing *Richardson v. Suzuki Motor Co.*, 9 U.S.P.Q.2d 1913 (Fed. Cir. 1989)). As discussed further below, Applicants respectfully assert that the rejection does not satisfy these requirements with regard to independent claims 1, 16 and 19 as amended herein.

Independent Claim 1

Independent claim 1, as amended herein, recites, in part, “wherein said LED chip is located on an edge of said first terminal opposite said electrical lead.” *Roberts* ‘548 does not disclose that an LED chip is located on an edge of said first terminal opposite said electrical lead. As seen in Figure 2 of *Roberts* ‘548, the LED chip 202 is not positioned on an edge opposite the electrical lead 209. *See* Figure 2; column 9, lines 36-41; and column 10, lines 46-50. Accordingly, Applicants respectfully submit that independent claim 1 contains subject matter that is patentable over the applied art of record. Therefore, Applicants respectfully assert that claim 1 is patentable over the 35 U.S.C. § 102(b) rejection of record.

Claims 2-14 depend directly or indirectly from independent claim 1, and thus inherit all limitations of independent claim 1. Thus, at least for the above reasons, each of claims 2-14 set forth features and limitations not recited by *Roberts* ‘548. Accordingly, claims 2-14 are patentable over the 35 U.S.C. § 102(b) rejection of record.

Independent Claim 16

Independent claim 16, as amended herein, recites, in part, that “said portion is disposed between said LED chip and said electrical lead.” *Roberts* ‘548 does not disclose that said portion (with a width at least as wide as the LED chip) of said first terminal is disposed between said LED chip and said electrical lead. *See e.g.*, Figure 2 and column 9, lines 36-41 of *Roberts* ‘548. Accordingly, Applicants respectfully submit that independent claim 16 contains subject matter which is patentable over the applied art of record. Therefore, Applicants respectfully assert that claim 16 is patentable over the 35 U.S.C. § 102(b) rejection of record.

Claims 17-18 depend directly or indirectly from independent claim 16, and thus inherit all limitations of independent claim 16. Thus, at least for the above reasons, each of claims 17-18 set forth features and limitations not recited by *Roberts* ‘548. Accordingly, claims 17-18 are patentable over the 35 U.S.C. § 102(b) rejection of record.

Independent Claim 19

Independent claim 19, as amended herein, recites, in part, that “said portion of said first terminal is located between said LED chip and an edge through which said electrical lead of said first terminal enters said first layer encapsulant.” *Roberts* ‘548 does not disclose that said portion (with a width at least as wide as the LED chip) of said first terminal is located between said LED chip and an edge through which said electrical lead of said first terminal enters said first layer encapsulant. Rather, Figure 2 shows that the LED chip is attached to a surface region in the middle of the portion of the first terminal. *See Figure 2 and column 9, lines 36-41.* Accordingly, Applicants respectfully submit that independent claim 19 contains subject matter which is believed to be patentable over the applied art of record. Therefore, Applicants respectfully assert that claim 19 is patentable over the 35 U.S.C. § 102(b) rejection of record.

Claim 20 depends directly from independent claim 19, and thus inherits all limitations of independent claim 19. Thus, at least for the above reasons, claim 20 sets forth features and limitations not recited by *Roberts* ‘548. Thus, Applicants respectfully assert that for the above reasons, Accordingly, claim 20 is patentable over the 35 U.S.C. § 102(b) rejection of record.

IV. Rejections under § 103(a)**Roberts ‘548 Rejection**

Claims 1-14 and 16-20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Roberts* ‘548. Applicants hereby traverse this rejection.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference. Second, there must be a reasonable expectation of success. Finally, the applied art must teach or suggest all the claim limitations. *See M.P.E.P. § 2143.* Without conceding the first and second criteria, Applicants assert that the rejection does not satisfy the third criterion.

a. Independent Claim 1

Independent claim 1 recites, in part, “wherein said LED chip is located on an edge of said first terminal opposite said electrical lead.” As discussed above, *Roberts* ‘548 does not teach or suggest that its LED chip 202 is located on an edge of the first terminal opposite the electrical lead 209. Therefore, Applicants respectfully assert that for the above reason claim 1 is patentable over the 35 U.S.C. § 103(a) rejection of record.

Claims 2-14 depend directly from base claim 1, and thus inherit all limitations of claim 1. Thus, Applicants respectfully assert that at least for the above reason claims 2-15 are patentable over the 35 U.S.C. § 103(a) rejection of record.

b. Independent Claim 16

Independent claim 16 recites, in part, that “said portion is disposed between said LED chip and said electrical lead.” As discussed, above, *Roberts* ‘548 does not teach or suggest that said portion is disposed between the LED chip 202 and the electrical lead 209. Therefore, Applicants respectfully assert that for the above reason, claim 16 is patentable over the 35 U.S.C. § 103(a) rejection of record.

Claims 17-18 depend directly or indirectly from independent claim 16, and thus inherit all limitations of independent claim 16. Thus, Applicants respectfully assert that at least for the above reasons, claims 17-18 are patentable over the 35 U.S.C. § 103(a) rejection of record.

c. Independent Claim 19

Independent claim 19 recites, in part, that “said portion of said first terminal is located between said LED chip and an edge through which said electrical lead of said first terminal enters said first layer encapsulant.” As discussed above, *Roberts* ‘548 does not teach or suggest that said portion of said first terminal is located between the LED chip 202 and an edge through which the electrical lead 209 of said first terminal enters said first layer encapsulant. Indeed, at column 9, lines 36-41, *Roberts* ‘548 specifically teaches that “heat extraction member 204 transfers heat out of the encapsulation 203 to the ambient

environment via a path having a location separate from the points of entry into the encapsulation of the electrical leads 205.” Therefore, Applicants respectfully assert that claim 19 is patentable over the 35 U.S.C. § 103(a) rejection of record.

Claim 20 depends directly from independent claim 19, and thus inherits all limitations of independent claim 19. Thus, Applicants respectfully assert that at least for the above reasons, claim 20 is patentable over the 35 U.S.C. § 103(a) rejection of record.

Roberts '548 in view of Roberts '916 and Shaddock

Claims 1-20 also are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Roberts '548 in view of Roberts '916 and Shaddock*. To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the applied art must teach or suggest all the claim limitations. *See M.P.E.P. § 2143.* Without conceding the first and second criteria, Applicants assert that the rejection does not satisfy the first criterion.

It is well settled that the fact that references can be combined or modified is not sufficient to establish a prima facie case of obviousness, M.P.E.P. §2143.01. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990), as cited in M.P.E.P. § 2143.01. Applicants assert that in the present case, there is no motivation to combine the references in the manner necessary to achieve the claim limitations.

Independent claim 1 recites, in part, “wherein said LED chip is located on an edge of said first terminal opposite said electrical lead.” Similar to independent claim 1, independent claim 16 recites, in part, that “said portion is disposed between said LED chip and said electrical lead.” Independent claim 19 recites, in part, that “said portion of said first terminal is located between said LED chip and an edge through which said electrical lead of said first terminal enters said first layer encapsulant.” Accordingly, each of these claims teach that the

portion of the first terminal and the LED chip are located in the path of heat transfer. *See* Figure 1.

However, *Roberts '548* expressly emphasizes an implementation in which heat extraction member 204 transfers heat out of the encapsulation to the ambient environment via a path having a location separate from the points of entry into the encapsulation of the electrical leads. *See* column 9, lines 36-41. *Roberts '548* asserts this as being a distinguishing feature of the *Roberts '548* system. Since the system of *Roberts '548* operates on different principles with respect to placement of the LED chip and the path of heat transfer than that of the present invention or the other references cited by the Examiner, the suggested combination of references would require a substantial reconstruction and redesign of the elements shown in Figure 2 of *Roberts '548*, as well as a change in the basic principle under which Figure 2 of *Roberts '548* was designed to operate. *See* column 9, lines 36-41. Thus, combining the teaching of another reference with that of *Roberts '548* in order to achieve an implementation in which the heat transfer path is not separate from the points of entry into the encapsulation of the electrical leads would impermissibly change the emphasized principle of operation of *Roberts '548*. The M.P.E.P. clearly states that such substitution is impermissible. *See* M.P.E.P. § 2143.01. Accordingly, Applicants assert that for the above reasons, independent claim 1, 16 and 19 are patentable over this 35 U.S.C. § 103(a) rejection of record.

Claims 2-15, 17-18, and 20 depend directly or indirectly from independent claims 1, 16 and 19 respectively, and thus inherit all limitations of their respective independent claims. It is again respectfully submitted that claims 2-15, 17-18 and 20 are allowable not only because of their dependency from their respective base claims, but also in view of their novel claim features. In view of the above, Applicants assert that the claims are patentable over the 35 U.S.C. § 103(a) rejection of record.

V. Conclusion

In view of the above amendment, applicants believe the pending application is in condition for allowance.

Applicants believe no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 50-1078, under Order No. 70020885-1 from which the undersigned is authorized to draw.

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as Express Mail Airbill No. EV482739026US, in an envelope addressed to: MS Amendment, Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450, on the date shown below.

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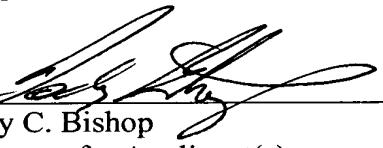
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